

CLAIMS

1. A light intensity adjustment system comprising a light irradiation device that irradiates light on a predetermined target area set up on a work piece, and a photographic device that photographs the target area and outputs obtained target area images to an image processor for the purpose of a surface scan, wherein said light irradiation device has multiple light irradiation units that are independently light intensity adjustable, and the light intensity adjustment system further comprises a light intensity control unit that controls respective light intensities of said light irradiation units so that brightness of the various parts of the target area images output by said photographic device approaches a predetermined standard value.
2. The light intensity adjustment system according to claim 1, wherein said light intensity control unit controls the light intensities of the various light irradiation units to make the brightness of the various parts of said target area image uniform.
3. The light intensity adjustment system according to claim 1 or 2 further comprising an individual light irradiation aspect data acquisition unit, whereby light irradiation aspects on said target area based on the light irradiated from the individual light irradiation units are acquired in advance from said target area images and are memorized in a predetermined memory region as individual light irradiation aspect data, and said light intensity control unit controls the light intensities of said light irradiation units based on said individual light irradiation aspect data.
4. The light intensity adjustment system according to claim 3, wherein said individual light irradiation aspect data at least indicates a light irradiation range and brightness distribution on the target area based on the various light irradiation units supplied a predetermined power.
5. The light intensity adjustment system according to claim 1, 2, 3, or 4 configured so that said target area is divided into multiple unit areas, each unit area corresponds to one light irradiation unit that mainly irradiate the unit area, and the light irradiation unit is taken as the main light irradiation unit of the unit area.
6. The light intensity adjustment system according to claim 5 configured so that said unit areas and the light irradiation units are given a one to one correspondence.
7. The light intensity adjustment system according to claim 5 or 6, wherein, based on

the light irradiation range of each light irradiation unit that said individual light irradiation aspect data indicates, said target area is divided into multiple unit areas so that the number or type of light irradiation unit that irradiates light on the various unit areas differ respectively.

8. The light intensity adjustment system according to claim 7, wherein, based on the brightness distribution of each light irradiation unit that said individual light irradiation aspect data indicates, for each unit area, the light irradiation unit that gives the greatest light intensity is taken as the main light irradiation unit of the unit area.

9. The light intensity adjustment system according to 5, 6, 7 or 8, wherein said light intensity control unit comprises an image separation unit that separates said target area image into images of said various unit areas, a representative value calculation unit that calculates a representative value of the brightness of the various unit area images, a comparison unit that compares a predetermined standard value of the brightness and the representative value of said each unit area image, and a unit light intensity control unit that controls the light intensity of the main light irradiation unit corresponding to the unit area so that each representative value approaches said standard value based on comparison results by said comparison unit.

10. The light intensity adjustment system according to claim 9, wherein said representative value calculation unit calculates the mean brightness of the unit area image and takes the value as the representative value.

11. The light intensity adjustment system according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10, wherein the light irradiation device comprises light irradiation units lined up in a linear or surface shape.

12. The light intensity adjustment system according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 or 11, wherein the light irradiation device comprises a light intensity unevenness-mitigating member that mitigates unevenness of light intensity dependent on gaps between adjacent light irradiation units.

13. The light intensity adjustment system according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 or 12 comprising multiple photographic devices, wherein the photographic devices photograph by separating said target area, and if either adjacent photographic device photographs by duplicating a part of said target area, for the overlapping target area, the light intensity of the corresponding light irradiation unit is controlled based on the image obtained by the photographic device with the higher priority ranking, and for the target region that the

photographic device with a lower priority ranking photographs, the light intensity of the light irradiation unit corresponding to that other area is controlled taking said image of the overlapping target area as the standard.

14. A light intensity adjustment system comprising, a light irradiation device that has multiple light irradiation units that are independently light intensity adjustable and that irradiates light toward predetermined target areas, a photographic device that photographs said target areas through a lens and outputs target area images as being photographed images, and a light intensity control unit that controls the respective light intensities of said light irradiation units so that the brightness of each part of the target area images that said photographic device has output approaches a predetermined standard value.